

# Comparing and Ordering Numbers on a Number Line



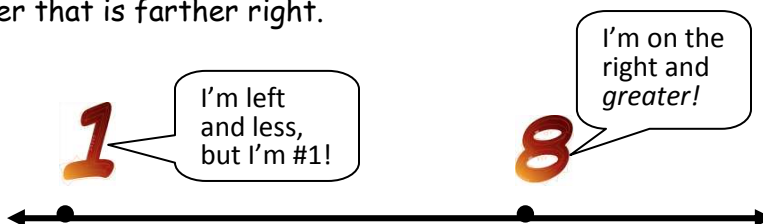
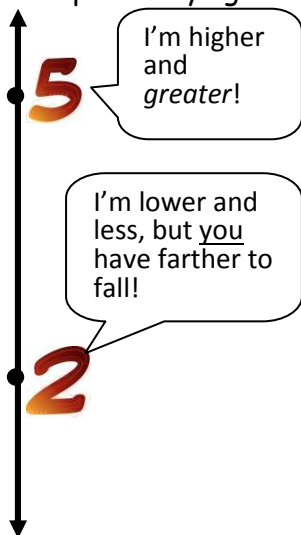
You are shopping for cookies for your class party, and you enter the grocery store at aisle 8. You know the cookies are on aisle 4. Do you turn right or left?

Knowing how numbers compare and how they appear in order can help in many situations: Finding the right seat in a stadium or theater, the right address on a street, or the right aisle for cookies in the store.



Statements of inequality give us information about the relative *positions* of numbers on a number line. On a horizontal number line, the numbers are shown increasing from left to right. When you compare two numbers, the number farther left is always less than the number that is farther right.

On a vertical number line, the number higher up is always greater.



On the number line above, 1 is clearly to the left of 8, so **1 is less than 8** ( $1 < 8$ ). You can also say that 8 is to the right of 1, so **8 is greater than 1** ( $8 > 1$ ). Either statement is correct.

On the vertical number line at left, 2 is clearly below 5, so **2 is less than 5** ( $2 < 5$ ). You can also say that 5 is above 2, so **5 is greater than 2** ( $5 > 2$ ).

Use what you now know about comparing and ordering numbers to describe the relative positions of the numbers in each inequality.

1)  $9 > 4$  9 is to the right of 4  
9 is greater than 4

2)  $0 > -4$  \_\_\_\_\_  
 \_\_\_\_\_

3)  $-11 < -9$  \_\_\_\_\_  
 \_\_\_\_\_

4)  $-4 > -10$  \_\_\_\_\_  
 \_\_\_\_\_

5)  $3 > -2$  \_\_\_\_\_  
 \_\_\_\_\_

6)  $0 < 8$  \_\_\_\_\_  
 \_\_\_\_\_

Answer the questions below.

7) What can you say about the relative positions, on the number line, of 7 and a number  $p$  if you know that  $7 > p$ ?

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8) Martina says that -12 is greater than -3 because -12 is farther from 0 than -3 is. Analyze the accuracy of her statement and correct it if necessary.

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9) You are asked to find a number that is greater than -6 and less than 6. Explain where on the number line you would find a number that matches that description. Would -8 be a correct response? Explain your answer.

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